Residential property auction prices

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Large movements in house prices over the past three years have re-emphasised the challenge of analysing their movements. This article presents data on properties sold at auction that may offer insights into short-term dynamics in the housing market.

The housing market plays an important role in the macroeconomy. Movements in house prices influence the amount of equity that people can withdraw from their homes to finance spending (Benito *et al* (2006)). And changes in house prices and housing market turnover influence both investment in the housing stock (Corder and Roberts (2008)) and durables spending (Benito and Wood (2005)). Developments in the housing market also have important implications for financial stability through the financial sector's exposures (Bank of England (2010)).

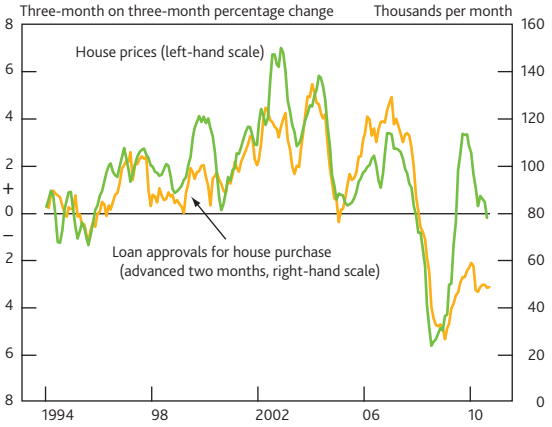
This article draws on property auction market data to look at short-term movements in the housing market.[2] The first section examines the speed with which house prices and transactions might respond to changes in the housing market. The second section then outlines the possible advantages to using property auction market data, before the third section considers how the data have evolved.

The response of house prices to changes in the housing market

Movements in house prices and transactions reflect changes in housing demand and supply. For example, a rise in transactions may be seen as reflecting an increase in demand thereby encouraging sellers to revise up prices. But the correlation between house prices and transactions is not straightforward. It depends on the speed with which both react to underlying changes in housing market demand and supply, and on the interactions between prices and transactions themselves. For example, changes in credit availability and house prices can lead to changes in the number of housing market transactions (Benito (2006)).

In practice, house prices and activity seem to respond to shocks in a similar manner — resulting in a close correlation (**Chart 1**). House prices do, however, appear to lag transactions slightly, which some studies have attributed to a delay before sellers amend the minimum price they are willing to accept for their house — their 'reserve price'. For example, Merlo and Ortalo-Magné (2004) found that, on average, those sellers that changed their asking prices waited eleven weeks before doing so.

Chart 1 House prices[a][b] and loan approvals for house purchase



Sources: Bank of England, Halifax and Nationwide.

(a) The average of the Halifax and Nationwide house price indices. The published Halifax index has been adjusted in 2002 by the Bank of England to account for a change in the method of calculation.
(b) House prices are recorded at the loan approval stage.

Why might sellers be slow to adjust their reserve prices? Sellers may 'anchor' their reserve prices around some reference point, for example prices observed for recent transactions in an area (Kahneman and Tversky (1979)). This could make sellers slow to adjust to changes in housing market conditions. Sellers may also be loss averse: they are more reluctant to revise down their reserve price when house prices are falling (Genesove and Mayer (2001)).

(1) The authors would like to thank Jake Horwood for his help in producing this article. The authors would also like to thank Essential Information Group for their data and analysis, which are a valuable input to the Bank's work.
(2) The use of property auction market data to assess developments in the housing market is not new (see, for example, Fathom (2010)). But the data used in this article cover a greater share of the property auction market than has typically been used previously.

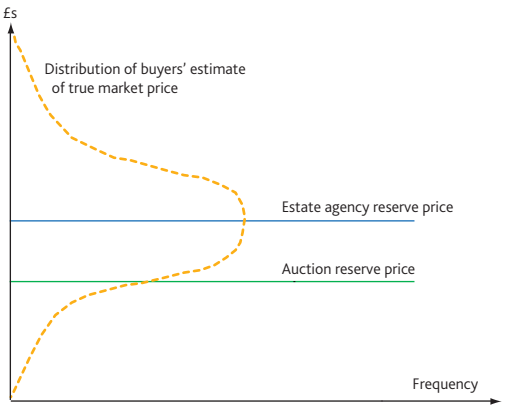
The remainder of this article examines whether the use of property auction market data may allow a more timely read on developments in the housing market.

The auction market

Residential property auction data can provide an alternative insight into developments in the housing market. These data have two main advantages. First, they measure prices at an earlier stage in the house purchase process than some other indices, such as the Land Registry house price index (see Thwaites and Wood (2003)). Hence, they are likely to provide a more timely indication of current conditions in the housing market.

More importantly, given the type of sellers operating in the auction market, auction prices may adjust more quickly to sharp changes in housing market conditions than prices in the wider housing market. The 'true' market price for a property is always uncertain so buyers and sellers draw their estimate from a distribution of possibilities (**Figure 1**). Contacts report that reserve prices are typically lower in the auction market than in the broader housing market, thereby giving a higher probability of a quick sale.

Figure 1 Market clearing in the housing market



There are a number of reasons why reserve prices might be lower in the auction market. When setting a reserve price for a property, sellers face a trade-off between speed of sale and price: a low price may lead to a quick sale, while a higher price is likely to lead to a longer marketing period. Sellers at auctions are typically lenders with repossessed stock, local authorities, property companies, executors and trusts, all of whom are likely to want to sell quickly. They also have not lived in the property and so have not developed the attachments to the property of an owner-occupier that can lead to a reserve value above the market value.(1) Further, if a seller's reserve price is too high and out of line with market demand, auction market contacts suggest that auctioneers are quick to insist that it is revised.

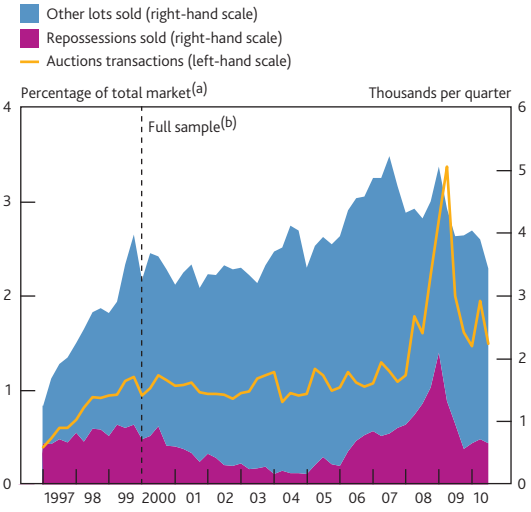
This lower reserve price may be particularly important in an environment of falling prices. If sellers are slow to revise down asking prices when prices are falling, then buyers may be less likely to offer a price higher than the reserve price. This helps explain the sharp fall in overall housing market transactions in 2008. Lower reserve prices in the auction market mean there is a greater probability of successful matches and so there should be a smaller fall in transactions. The auction market may therefore give an earlier indication of changes in house prices than the wider property market in a falling market.

There may, therefore, be reason to believe that auction prices might lead other house price measures. But whether this happens in practice is an empirical question, which will be considered further in the next section.

Property auction market data

Property auction data are available since 1991 from Essential Information Group (EIG). From around 2000 these data cover all property sold in auction rooms — on average 1,300 house sales per month, equivalent to 1.3% of all housing market transactions (**Chart 2**).(2) This section examines first how the number of auction sales has evolved. It then constructs an aggregate price index for housing auction data before comparing this measure to other house price indices.

Chart 2 Number of properties sold at auction and as a proportion of total transactions



Sources: EIG, HM Revenue and Customs and Bank calculations.

(a) Data for UK total market transactions prior to 2005 are an estimate based on data for England and Wales.
(b) During the 1990s, EIG were increasing their coverage of the auction market, so some of the increase over this period reflects a larger sample. This was completed in around 2000.

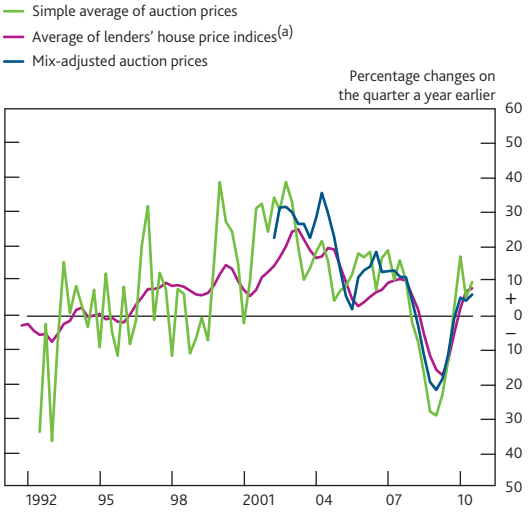
(1) Evans (1983) describes a similar situation for land prices.
(2) The EIG data exclude internet property auctions. The EIG data include properties that are unsold at auction but on which offers are made and accepted up to 30 days after the auction. These accounted for an average of 7% of the sample between 2001 and 2010 Q2.

Auction market activity was relatively resilient during the period of falling house prices in 2008, compared with sharp falls in transactions in the wider housing market. That resilience in part reflected an increase in the number of repossessions sold at auction (**Chart 2**). But sales of other lots still fell by considerably less than transactions in the wider housing market. This is consistent with the theory that lower reserve prices in the auction market allow more of the adjustment to come through prices, thereby supporting the number of sales.

The rise in the number of repossessed properties sold at auction may reflect a higher number of repossessions or weaker demand in the broader housing market. Contacts at EIG suggest lenders first try to sell properties through estate agents. If this option fails, they take the property to auction (typically after around eight weeks). A rise in the number of repossessed properties sold at auction may therefore indicate that lenders have struggled to sell them on the normal market, consistent with there being excess supply of properties. More recently, the number of repossessed properties sold at auction has returned to more normal levels, perhaps reflecting both fewer overall repossessions and more balanced demand and supply conditions in the housing market.

Turning to auction prices, care must be taken when combining the prices of individual lots into an aggregate index. Prior to 2001 it is only possible to calculate a simple average price. But this can be distorted by changes in the mix of properties sold over time. For example, in 2008, (lower-priced) flats formed a larger proportion of lots sold at auction. This contributed to the sharp fall in the simple average price of properties sold at auction (**Chart 3**).

Chart 3 Auction price data and the average of lenders' house price indices



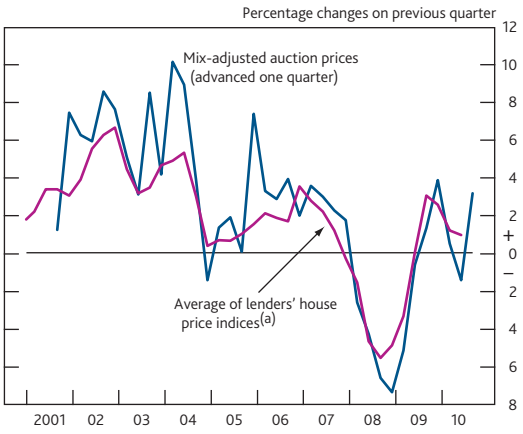
Sources: EIG, Halifax, Nationwide, Survey of English Housing and Bank calculations.

(a) See **Chart 1**, footnote (a).

Since 2001, however, it is possible to construct an auction house price index that adjusts for the composition of the properties sold. Detailed data on average prices are available, broken down by region, property type and number of bedrooms, allowing the construction of a mix-adjusted series. The average prices of different types of property (for example, two-bedroom flats in London) are weighted together.(1) The weight of each property type is based on the 2001 Survey of English Housing (SEH) estimates of the prevalence of different property types in the private housing stock. The resulting index is smoother than the simple average, and matches more closely the average of the indices produced by Halifax and Nationwide (**Chart 3**).

Over the past ten years, quarterly house price inflation on the mix-adjusted auction price index has followed a similar path to that of other house price indices (**Chart 4**). House price inflation was high in the early 2000s, before falling back around 2004–05. It then picked up again, before turning negative during the recent recession. More recently, house price inflation has recovered and house prices have been broadly stable in 2010. Other measures of house prices are discussed in the box on page 202.

Chart 4 Property auction prices and the average of lenders' house price indices



Sources: EIG, Halifax, Nationwide, SEH and Bank calculations.

(a) See **Chart 1**, footnote (a).

Empirically, auction price data appear to lead the average of the lenders' indices. Correlation analysis shows a slightly stronger relationship between the two indices when the auction index leads by one quarter than when they are contemporaneous (**Table A**). While the difference is small, it is statistically significant. Other statistical tests also support this finding.(2)

(1) The average price for a particular type of property is calculated using a simple arithmetic average while the overall index is based on a geometric average.
(2) Granger causality tests suggest auction price inflation leads house price inflation (as measured by the average of the lenders' indices) when one or two leads are included, but the reverse is not true.

Measuring house prices

There are several UK house price indices. Each varies by data source, sample, standardisation methodology and the definition of an 'average' house (**Table 1**). This means that each has a different interpretation and the 'right' index to look at depends largely on the question asked. This box provides a brief overview of the five main differences between the measures — a broader discussion is available in Thwaites and Wood (2003).(1)

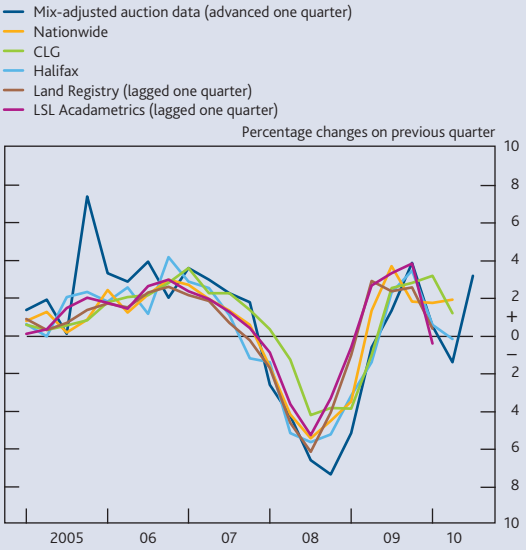
First, different indices use different samples of data. The most comprehensive data set is produced by the Land Registry which reports the prices of all registered transactions. But there is a delay with which these data are available. Other series are based on subsets of the market. For example, the mortgage lenders, Halifax and Nationwide, only include houses on which they have extended mortgages.

Second, throughout the process between listing a property and transacting, the reported price can change. For example the asking price may be different from the agreed price on which the mortgage is lent, which may again differ from the final price registered with the Land Registry.

Third, the type of properties bought and sold varies over time. If a higher proportion of (lower-priced) flats is sold in a quarter a simple average measure of prices would fall. Standardisation, for example by mix adjustment or hedonic regression, addresses this by creating a price index of some 'average' house over time. The fourth issue is that different indices have different definitions of the 'average' house. Some indices are based on the features of a fixed 'average' house and compare the price of that property over time; others are based on the average features of recently transacted houses. Finally, when weighting together properties to create an average, some indices use the share of that property type in the overall value of transactions (putting more weight on higher-value properties); others use the share in the volume of transactions.

Given the many ways in which house price indices can differ, it is reassuring that the main indices move fairly closely together once timing effects are accounted for (**Chart A**). Short-term divergences occur, but the broad movement of house price inflation is common to all the indices.

Chart A House price indices



Sources: Department of Communities and Local Government, EIG, Halifax, Land Registry, LSL Property Services/Acadametrics, Nationwide, SEH and Bank calculations.

(1) This box does not consider surveys which only report the balance of respondents reporting rising or falling prices, eg the Home Builders Federation or Royal Institution of Chartered Surveyors.

Table 1 House price indices

Index	Sample	Time	Standardisation method	Definition of 'average' property	Weighting method	Seasonally adjusted?
Auction series	Property sold at UK auctions	Exchange	Mix adjustment	2001 housing stock (from SEH)	Volume	Yes
Home.co.uk	Properties for sale through home.co.uk	Asking prices	Mix adjustment	2003–04 housing stock (from SEH)	Value	No
Rightmove	Sellers' asking prices posted on website	Asking prices	Mix adjustment	England and Wales housing stock	Value	No
Department of Communities and Local Government	Currently about half of all UK mortgages	Approval	Hedonic regression	Rolling average of UK transactions	Value	Yes
Halifax	Halifax loans for house purchase	Approval	Hedonic regression	1983 Halifax loan approvals	Volume	Yes
Hometrack	Survey of estate agents' estimated local average prices	Approval	Mix adjustment	England and Wales housing stock	Value	No
Nationwide	Nationwide loans for house purchase	Approval	Hedonic regression	Rolling average of UK transactions	Volume	Yes
Land Registry	All sales registered in England and Wales	Completion	Repeat sale regression	None (calculated from growth rates)	Volume	Yes
LSL Property Services/ Acadametrics	All sales registered in England and Wales	Completion	Mix adjustment	Rolling average of UK transactions	Value	Yes

Table A Correlation between quarterly house price inflation on the mix-adjusted auction index and the average of lenders' indices

	Contemporaneous	One-quarter lead	Two-quarter lead
Correlation coefficient	0.82	0.89	0.81

Sources: EIG, Halifax, Nationwide, SEH and Bank calculations.

As with all data sources, there are other factors to consider when using auction price data. The small number of properties sold at auction means that the data can be volatile. And even though reserve prices are lower in the auction market, there is still a price below which sellers are not willing to go. In addition, anecdotal evidence from EIG suggests properties sold at auction may be of a lower quality, which is not accounted for in the mix adjustment. Comparing the level against other indices may therefore give a misleading impression, hence the focus of this article on changes in house prices. Further, the mix-adjustment methodology is cruder than the hedonic regressions used by the lenders. As such it does not get as close to measuring a constant-quality house as, for example, the Halifax and Nationwide indices. Hence, there may be times at which the auction price data deviate from other measures: see, for example, the volatility in the auction price data in recent quarters (**Chart 4**). Auction price data must therefore be viewed in conjunction with a variety of other housing market indicators.

Conclusion

Residential property auction data provide an alternative perspective on developments in the housing market. Auction prices may be recorded at a stage that gives greater insight into current market conditions than some other indices. And lower reserve prices in the auction market mean that auction prices may react more quickly.

In practice, the benefits of using the data become an empirical question. Evidence suggests that these data may lead other indices by around one quarter. But care must be taken when analysing the data, particularly given the relatively small number of properties sold at auction. Nevertheless, the results suggest that the auction data are a useful addition to a toolbox for analysing trends in the housing market.

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